



WILDLIFE AND OFFSHORE DRILLING

The 2010 Gulf of Mexico Disaster: Brown Pelican

CLEANING OF OILED BROWN PELICAN ON MAY 15, 2010, BURAS, LOUISIANA © AP PHOTO/CHARLIE RIEDEL; OIL RIG © U.S. COAST GUARD

The brown pelican is currently found along the coastlines of all five states in the Gulf of Mexico, and it is the state bird of Louisiana, in the path of BP's Deepwater Horizon oil spill. Once listed as endangered under the Endangered Species Act, this coastal bird was only recently deemed recovered—and it is now imperiled again, this time from oil.

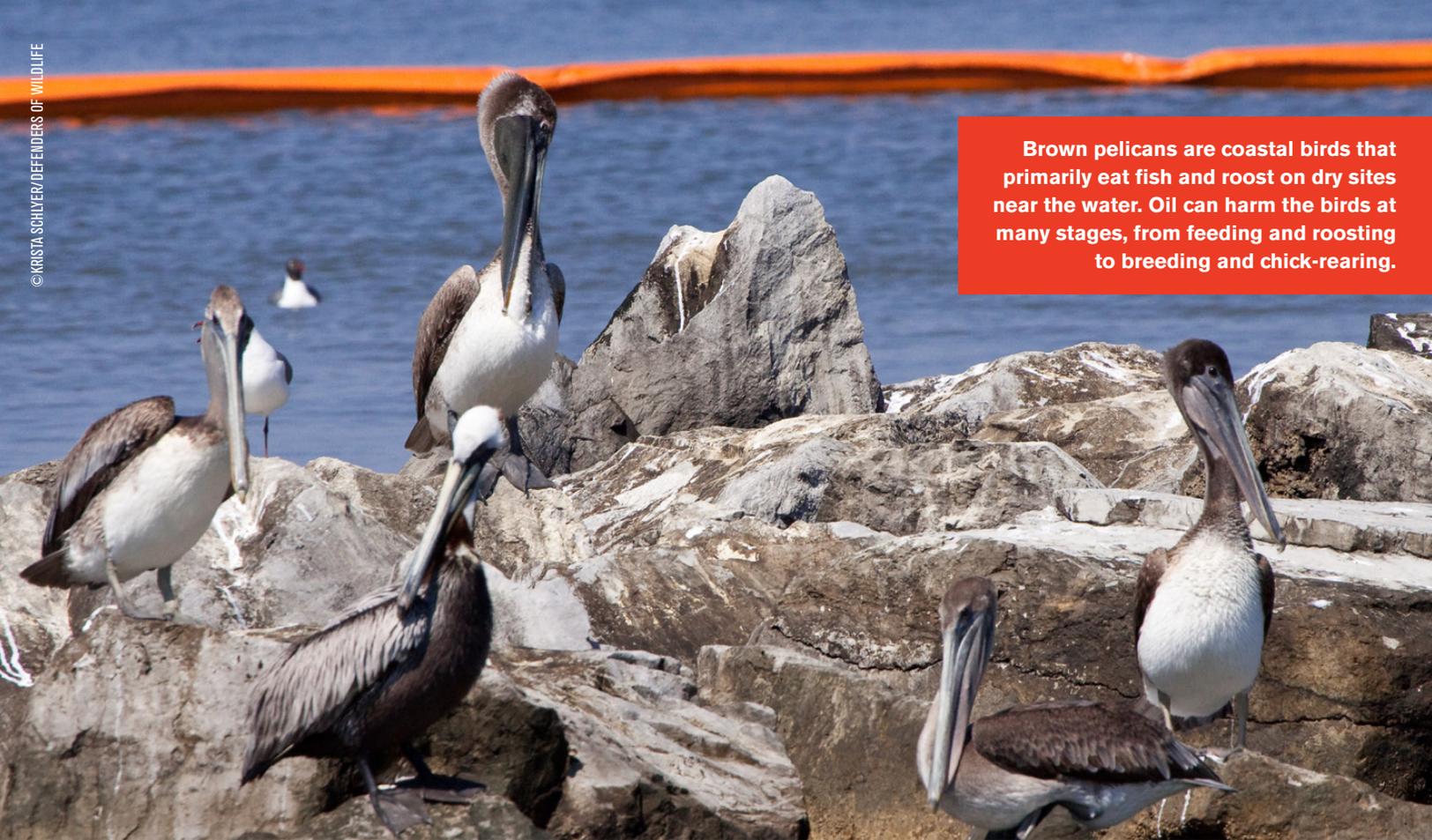
BROWN PELICANS IN THE GULF OF MEXICO

Primarily fish eaters, brown pelicans have keen eyesight that they use to find and then dive on their prey, sometimes from heights of 60 to 70 feet. Unable to remain on water more than about an hour without becoming waterlogged, pelicans require secure, dry sites for roosting. They usually breed on small, predator-free coastal islands within 20 to 30 miles of a persistent food supply.

The French explorer Iberville in 1699 found the pelican to be among the most numerous birds he encountered, and Louisiana eventually became known as “The Pelican State.” But by the early 1960s nesting brown pelicans had essentially disappeared from the state and from much of the rest of their range, victims of poisoning from the pesticide DDT.

Thanks in large part to its protection under the Endangered Species Act, the brown pelican eventually made a full recovery on the East Coast, with other populations showing steady improvement. About 60 percent of all brown pelicans in subspecies *Pelecanus occidentalis carolinensis* (Atlantic, Gulf and Caribbean coasts) breed on the Gulf Coast. But the birds still face threats, including loss of essential coastal nesting habitats, human disturbance at nesting and roosting sites, snarling in abandoned fishing line, flying into overhead structures, environmental contaminants and oil pollution.

Because of their habitat needs, and because pelicans must search for food near their breeding sites, they are highly vulnerable to oil exposure in coastal ocean waters. Brown pelicans are also susceptible to injury and death from the toxic substances in petroleum and other pollutants.



Brown pelicans are coastal birds that primarily eat fish and roost on dry sites near the water. Oil can harm the birds at many stages, from feeding and roosting to breeding and chick-rearing.

Louisiana Brown pelicans breed in the Chandeleur Islands west to Isle Dernieres. Primary sites for nesting during recent decades include North Island (St. Bernard Parish), North Grand Gosier Island (Plaquemines Parish), Queen Bess Island (Jefferson Parish) and Last Island (Terrebonne Parish). Estimated population size in the 1920s was 12,000 to 85,000 birds. Reintroduction of pelicans from other parts of their range (mainly from Florida) between 1968 and 1980 increased the number of colonies to at least 14 by 2003, and a peak of 16,000 nests in 2004.

Texas Scattered breeding from Galveston Bay south to the southern reaches of the Laguna Madre. Persistent nesting sites include Little Pelican Island (Galveston County), Sundown Island (Matagorda County) and Pelican Island in Corpus Christi Bay (Nueces County). Historical populations in Texas ranged between 1,500 and 4,000 nesting pairs. By 2003, there were eight colonies and nearly 4,000 active nests.

Mississippi There are no known nesting records of brown pelicans in Mississippi, although they are regularly seen roosting and feeding along the state's Gulf Coast and coastal islands.

Alabama Pelicans breed only in Mobile Bay on Gaillard Island, which they colonized in 1983. With as many as 5,525 breeding pairs, Gaillard Island is among the largest colonies anywhere in the southeastern United States.

Florida Pelicans breed along the Gulf Coast of western Florida, mainly from Levy County south to the Keys, but

also as far north as Cedar Key. Previously, brown pelicans rarely bred along the Florida panhandle, but they established a breeding colony at St. Andrews Bay (Bay County) in 1982, and may also nest in Gulf, Franklin and Wakulla counties. Over the past 30 years, population estimates for Florida have ranged from 6,000 to 8,000 pairs in the 1970s to a high of 12,310 pairs in 1989. Most increases seen from 1977 to 1989 took place in the northern half of the state. During this time, several important populations in southern Florida declined, in part because of food shortages. The state's total estimated breeding population in 1995 was 9,950 pairs.

IMPACTS OF OIL

Brown pelicans are highly susceptible to oil spills. Their breeding, roosting and foraging sites are often close to shipping channels with heavy commercial traffic, harbors containing refineries or storage facilities, and offshore oil wells. Oil can thus harm pelicans at each of their life stages, from feeding and roosting to breeding and chick-rearing.

Eggs and hatchlings

Oiling of eggs reduces the hatching and reproductive success of brown pelicans. In May 1982, 80,000 gallons of diesel spilled in the Cape Fear estuary of North Carolina 20 miles from two pelican nesting islands. Oil transferred to the eggs from incubating adults contaminated 24 percent of the nests on one island, and resulted in a later reduction of hatching success.

Juveniles and adults

Since 1984, 12 major oil-spill-related seabird mortality events have occurred along the California coast. One of these events was from an offshore oil platform, the Platform Irene spill of 1997, and the other spills were from oil tankers and other vessels. Each of these events adversely affected the breeding, roosting or migration of brown pelicans.

An estimated 195 pelicans died as a result of the oil tanker *American Trader* grounding in 1990 at Huntington Beach, California, spilling 415,000 gallons of Alaskan crude oil. An additional 700 to 1,000 oiled pelicans were observed at a roost after the spill. This spill occurred just before the beginning of the breeding season as pelicans were concentrating around traditional roosts before moving to breeding islands, making them especially vulnerable. BP's Deepwater Horizon spill is occurring in similar circumstances—at the beginning of the breeding season for pelicans nesting and foraging near the spill.

Even small oil spills that disperse and/or sink can harm pelicans. Two spills in 1976 in Texas's Corpus Christi Bay totaling almost 400 barrels were mostly recovered, yet the residual petroleum carried by tides into coastal marshes ended up covering as much as 95 percent of the plumage on some pelicans, killing some birds. An estimated 123 pelicans were killed along the central California coast during the 1997-98 Point Reyes tarball incidents.

Indirect effects

Effects of oiling on pelicans persist beyond immediate injuries. Survival and future reproductive success of oiled pelicans that are rehabilitated and released are lower than for nonoiled

pelicans, for example. In Venezuela, brown pelicans are thought to be at risk from reductions in marine productivity and lowered food supply due to cumulative oil spills.

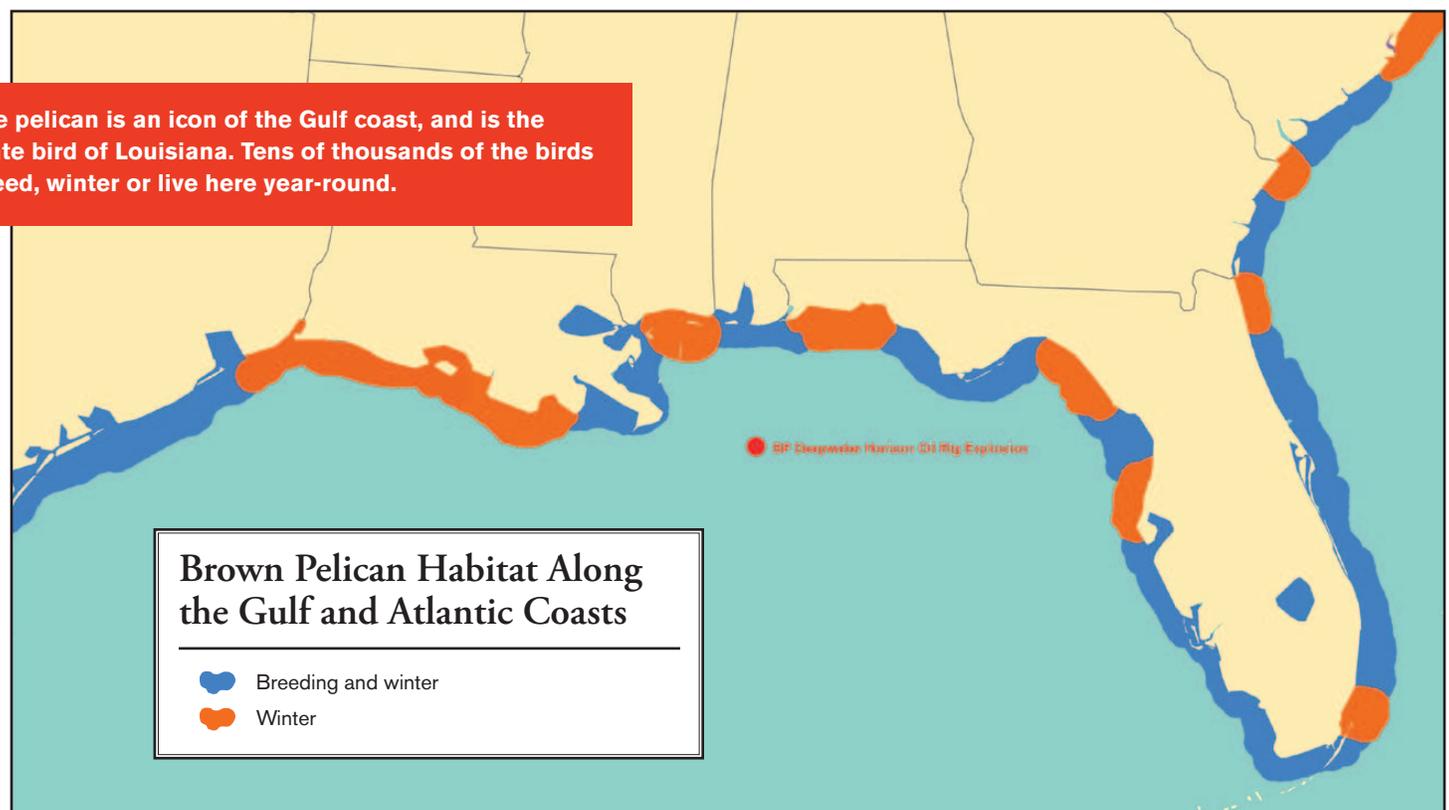
Impacts of oil spills combined with climate change and other threats

Storms accompanied by severe tidal flooding are believed to be the most frequent and significant threat to the productivity of brown pelicans in Louisiana. Indeed, sea level rise and storm surges pose a risk to brown pelicans everywhere along the Gulf Coast. Some shoreline areas are already being lost to human development. In 2005, the three severe hurricanes that hit Louisiana caused a significant loss of nesting habitat for pelicans. These storms and an oil spill that year caused a decline in the number of pairs that successfully reared eggs and young.

Entanglement with sport-fishing gear is a major cause of mortality across the southeastern United States. More than 700 pelicans die of this each year in Florida alone. Up to 80 percent of live birds examined show signs of past encounters with fishing gear, and as many as six individual dead pelicans have been found on a single 30 meter length of fishing line. In addition, brown pelicans commonly collide with power lines and other structures when flying and diving.

Brown pelicans are easily disturbed by people at breeding colonies. Eggs or small nestlings sometimes get crushed or knocked from the nest when panicked adult birds flee. And unattended eggs and small nestlings are susceptible to predators and hyperthermia. The larger juveniles that get displaced from their nests by disturbance

The pelican is an icon of the Gulf coast, and is the state bird of Louisiana. Tens of thousands of the birds breed, winter or live here year-round.



Hundreds of pelicans have died, or their eggs failed to hatch, in past oil spills in America that were far smaller than the massive Deepwater Horizon disaster.



may starve if they are unable to return or become entangled in vegetation. Dredge islands and sand bars that are used by birds for roosting can be abandoned as a result of too much boat traffic and human recreational use.

WHAT CITIZENS CAN DO

- Be aware of brown pelican nesting areas and avoid disturbing colonies, roosting sites or other groups of birds, especially during the breeding season.
- Never discard fishing line, tackle and other lines and plastic substances that might entangle or be consumed by brown pelicans. Carefully pick up any discarded line you see and dispose in an appropriate container.
- Report pelicans that are injured by collisions with power lines and other structures to a certified animal care facility.
- Urge your elected officials to pass comprehensive climate change legislation that addresses the impacts of global warming on wildlife and our natural resources.

WHAT POLICY MAKERS CAN DO

- Make sure that brown pelicans in all stages of their lives—eggs, juveniles and breeding adults—are protected in oil spill cleanup operations.
- Ensure that BP funds long-term restoration of brown pelican populations in all Gulf areas affected by the spill, including mitigation for the long-term damage caused to pelicans from nonlethal exposure.

- Impose greater safety and environmental standards and develop comprehensive spill response plans on existing offshore drilling operations.
- Prevent expanded drilling operations off the coast to limit future spill risks.
- Enact comprehensive energy and climate change policies to transition away from harmful oil and fossil fuels.

REFERENCES

- Anderson, D. W., F. Gress, and D. M. Fry. 1996. Survival and dispersal of oiled Brown Pelicans after rehabilitation and release. *Marine Pollution Bull.* 32: 711-718.
- Carter, H. R., and R. T. Golightly. (eds.). 2003. Seabird injuries from the 1997-1998 Point Reyes Tarball Incidents, Vol. 1. Unpublished report, Humboldt State University, Department of Wildlife, Arcata, CA. http://www.dfg.ca.gov/ospr/report/point_reyes_tarball_incidents.pdf
- Hampton, S., P. R. Kelly, and H. R. Carter. 2003. Tank vessel operations, seabirds, and chronic oil pollution in California. *Marine Ornithology* 31: 29-34.
- King, K. A., E. Flickinger, and H. Hildebrand. 1977. The decline of Brown Pelicans on the Louisiana and Texas Gulf Coast. *Southwestern Naturalist* 21: 417-431.
- King, K. A., S. Macko, P. L. Parker, and E. Payne. 1979. Resuspension of oil: probable cause of Brown Pelican fatality. *Bull. Environm. Contam. Toxicol.* 23: 800-805.
- Louisiana Department of Wildlife and Fisheries. 2006. Surveys indicates decline in Brown Pelican population. Louisiana Department of Wildlife and Fisheries Newsletter, June 23, 2006, p. 2.
- Nesbitt, S. A. 1996. Eastern Brown Pelican. Pages 144-155 in Rare and endangered biota of Florida. Vol. V. Birds. (Rodgers, Jr., J. A., H. W. Kale II, and H. T. Smith, Eds.) Univ. Press of Florida, Gainesville.
- Parnell, J. F., M. A. Shields, and D. Frierson, Jr. 1984. Hatching success of Brown Pelican eggs after contamination with oil. *Colonial Waterbirds* 7: 22-24.
- Shields, M. 2002. Brown Pelican (*Pelecanus occidentalis*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/609>
- U.S. Fish and Wildlife Service. 2007. Listed distinct population segment of the Brown Pelican (*Pelecanus occidentalis*). 5-year Review: Summary and Evaluation. USFWS, Division of Ecological Services, Southwestern Regional Office, Albuquerque, NM.



DEFENDERS OF WILDLIFE
1130 17th Street, N.W.
Washington, D.C. 20036
202.682.9400
www.defenders.org